REMARKS

Claims 1-6 and 8-15 are pending in this application. Claims 1-4, 6, 9 and 10 were rejected under 35 U.S.C. § 102(e). Claims 1, 5, 8, 11-14 and 15 were variously rejected under 35 U.S.C. § 103(a). Claim 11 was objected to.

By this amendment, claims 1 and 11 have been amended without prejudice or disclaimer of any previously claimed subject matter. Support for the amendments can be found, *inter alia*, throughout the specification. Support for the amendments is found, *inter alia*, at page 5, lines 13-15 and at page 17, lines 11-28. The grammar of claim 11 was herein corrected in response to the claim objection.

Applicant respectfully requests entry of this amendment.

The amendments are made solely to promote prosecution without prejudice or disclaimer of any previously claimed subject matter. With respect to all amendments and cancelled claims, Applicant has not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicant expressly reserves the right to pursue prosecution of any presently excluded subject matter or claim embodiments in one or more future continuation and/or divisional application(s).

Applicant thanks the Examiner for acknowledging withdrawal of the previous rejections under 35 U.S.C. §§ 112, first and second paragraphs, 102 and 103.

Applicant has carefully considered the points raised in the Office Action and believe that the Examiner's concerns have been addressed as described herein, thereby placing this case into condition for allowance.

Rejection under 35 U.S.C. §102

Claims 1-4, 6, 9 and 10 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Krieg *et al.* (U.S. Patent No. 6,339,068, hereinafter "Krieg '068"). Applicant respectfully traverses this rejection.

The claimed invention is directed to methods of suppressing an RSV infection in an individual who has been exposed to RSV comprising administering an ISS-containing polynucleotide composition in an amount sufficient to suppress an RSV infection. As amended, the polynucleotide is greater than six and less than about 200 nucleotides in length and the ISS comprises the sequence 5'-C, G-3'. Neither RSV antigen nor an immunostimulatory cytokine are administered in conjunction with the polynucleotide composition. As stated in the specification at page 5, lines 13-15, "[t]he ISS-containing polynucleotide is administered without any respiratory virus antigens (i.e., respiratory virus antigen is not co-administered)."

On the contrary, the methods of Krieg '068 require administration of antigen via some mechanism, either in the form of antigen *per se* or in the form of a vector encoding an antigen for expression of the antigen in the recipient.

Krieg '068 is directed to DNA vector constructs (DNA vaccines) and methods of immunization administering immunostimulatory CpG motifs ("CpG-S DNA") with antigen, that is either administration of antigen through administration of an antigen-encoding vector or through administration of antigen *per se*. This patent describes the immunostimulatory effects of CpG-S DNA on B cells and states that this immunostimulatory activity "could be applied either to classical antigen-based vaccines or to DNA vaccines. CpG-S ODN have potent Th-1 like adjuvant effects with protein antigens."[1]

Krieg '068 states that it "provides a method for enhancing the immunostimulatory effect of an antigen encoded by nucleic acid contained in a nucleic acid construct" through inserting "stimulatory CpG (CpG-S) motifs in the construct." The patent provides CpG-S motifs and features of the vector important for expression of the antigen-encoding sequence in recipient cells. Krieg '068 then states "[a]lternatively, an antigen can be administered simultaneously (e.g., admixture) with the nucleic acid construct." Col. 3, lines 7-34. Krieg '068 also states that there "is no limitation as to the route that the DNA vaccine is delivered, nor the manner in which it is formulated

[1] Krieg '068, col. 2, lines 50-62. Following these statements, six references are cited in support.

as long as the cells that are transfected can express antigen in such a way that an immune response is induced." Col. 11, lines 14-18.

Thus, according to Krieg '068, the immunostimulatory sequences are administered with antigen and administration of the antigen can be accomplished either through administration of an antigen-encoding vector or through administration of antigen *per se*.[2]

The Examiner states that "[b]ecause the polynucleotide encodes an RSV antigen, the method of Krieg does not comprise delivery of an RSV antigen *per se*. Instead, the antigen is subsequently produced by cells that take up the nucleic acid." Office Action, page 3.

In the claimed invention, the administered polynucleotide is greater than six and less than about 200 nucleotides in length. Applicant respectfully submits that administration of a polynucleotide of such a limited length cannot cause expression an RSV antigen in cells of the recipient, even if the polynucleotide encoded an RSV antigen. In particular, with regard to the present invention, such a polynucleotide could not cause expression in such a way that an immune response to the antigen is induced, as taught by Krieg '068.

For a claim to be anticipated by a reference, the reference much teach each and every element of the claim. As noted above, the claimed invention excludes administration of RSV antigen in conjunction with the ISS-containing polynucleotide. Krieg '068 does not teach or suggest administration of ISS-containing polynucleotide greater than six and less than about 200 nucleotides in length without administration of RSV antigen for use in suppressing an RSV infection.

Thus, Applicant respectfully submits that Krieg '068 does not anticipate the claimed invention.

Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. §102(e).

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[2] For vaccination purposes, administration of antigen through either of these two methods is taught elsewhere in the art. See, for example, U.S. Pat. No. 6,498,148 (for example, claim 1), Sato et al. (1996, *Science* 273:352-354) and Klinman et al (1997, *J. Immunol.* 158:3635-3639), all of record.

Rejections under 35 U.S.C. §103(a)

Claims 11-14 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Krieg *et al.* (Krieg '068). Claims 1, 5, 8, 11 and 15 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Krieg '068 in view of Raz *et al.* (U.S. Patent No. 6,498,148, hereinafter "Raz"). Applicant respectfully traverses these grounds for rejection.

Claims 11-14 over Krieg '068

Claims 11-14 are directed to a kit for use in the method of the invention comprising a composition comprising an ISS-containing polynucleotide and instruction for administration of the composition to the respiratory tract of an individual. The polynucleotide is greater than six and less than about 200 nucleotides in length and the ISS comprising the sequence 5'-C, G-3'. The claimed kit does not contain RSV antigen or an immunostimulatory cytokine.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Finally, there must be a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20USPQ2d 1438 (Fed. Cir. 1991); MPEP §2143.

As described above, Krieg '068 describes administration of nucleic acid vector constructs containing CpG-S motifs in conjunction with administration of antigen for vaccination methods. Also as discussed above, a polynucleotide greater than six and less than about 200 nucleotides in length cannot cause expression an RSV antigen in cells of the recipient as taught by Krieg '068. Krieg '068 does not teach or suggest administration of ISS-containing polynucleotide greater than six and less than about 200 nucleotides in length without administration of RSV antigen

for use in suppressing an RSV infection. Accordingly, Krieg '068 does not teach or suggest producing a kit as claimed.

Thus, Krieg '068 provides no teaching or suggestion of the claimed invention. Further, Applicant respectfully submits that there is no suggestion or motivation in Krieg '068 to modify the teachings therein to arrive at the claimed invention.

Thus, Applicant respectfully submits that a *prima facie* case of obviousness has not been established with regard to claims 11-14.

Claims 1, 5, 8, 11 and 15 over Krieg '068 in view of Raz

As outlined herein, Krieg '068 describes administration of nucleic acid vector constructs containing CpG-S motifs in conjunction with administration of antigen for vaccination methods. and thus, does not teach the claimed invention.

Raz describes a method for suppressing antigen-stimulated inflammation, for example, in treatment of asthma, through the administration of a polynucleotide comprising ISS without co-delivery of an immunizing antigen. For example, Raz, col. 1, line 64, to col. 2, line 5. Among other routes of administration, Raz teaches delivery of the ISS-containing polynucleotide intranasally and via inhalation. Raz, col. 6-7. Raz teaches a particular immunostimulatory sequence which is the same sequence as SEQ ID NO:1 of the present invention.

Krieg and Raz each describe different solutions for treating different disorders. Accordingly, Applicant respectfully submits that there is no suggestion or motivation in the references to combine or modify the teachings therein to arrive at the claimed invention. Applicant also submits that there is no suggestion or motivation in the art to combine or modify the teachings of each reference to arrive at the claimed invention.

Further, Applicant submits that the combination of Krieg and Raz does not teach or suggest all the limitations of the claimed invention.

Thus, Applicant respectfully submits that a *prima facie* case of obviousness has not been established with regard to claims 1, 5, 8, 11 and 15.

In sum, Applicant respectfully submits that a *prima facie* case of obviousness has not been established and respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a).

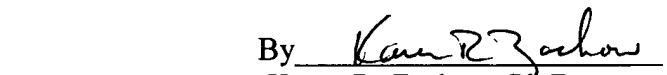
CONCLUSION

Applicant believes that all issues raised in the Office Action have been properly addressed in this response. Accordingly, reconsideration and allowance of the pending claims is respectfully requested. If the Examiner feels that a telephone interview would serve to facilitate resolution of any outstanding issues, the Examiner is encouraged to contact Applicant's representative at the telephone number below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 377882000900.

Dated: November 7, 2003

Respectfully submitted,

By 

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